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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,461	01/07/2005	Takahiro Kishioka	122364	5518
25944 7590 05/24/2010 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
WALKE, AMANDA C				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
05/24/2010		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

OfficeAction25944@oliff.com
jarnstrong@oliff.com

Office Action Summary

Application No.

10/520,461

Applicant(s)

KISHIOKA ET AL.

Examiner

Amanda C. Walke

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-8 and 11-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI.08)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Interval Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/19/10 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4, 5, 7, 8, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Thackeray et al (5,851,730) in view of any of Ogita et al (6,348,553) Kawashima et al (5,576,405), and Kawabe et al (5,707,776).

Thackeray et al disclose an antihalation/ antireflective layer comprising a resin binder (which preferably comprises an anthracene; column 6) and a resin crosslinking resin in an amount of about 5-50% of the total solids in the layer, and the ~50% meets the amount of the instant claim 11. The reference teaches that various known crosslinking resins may be employed, however, the instantly claimed structured resin is not specifically disclosed.

All of Ogita et al, Kawashima et al, and Kawabe et al disclose resin compositions, and teach that known crosslinking agents that are commercially available, and meet the instant claim

limitations for the structure and MW include UFR65 (Kawashima et al and Kawabe et al) and UFR300 (Ogita et al and Kawabe et al), both of which are also listed as preferred examples of the resins on page 7 of the instant specification.

It would have been obvious to one of ordinary skill in the art to prepare the material of the Thackeray et al reference choosing the known melamine crosslinker taught by Ogita et al, Kawashima et al, or Kawabe et al crosslinker in the material of Kang et al.

Thackeray et al further teaches that the material is employed in a method of forming a device including the steps of coating the ARC, depositing a layer of resist, exposing and developing the resist to form a pattern, then selectively processing the substrate in the portions where the resist has been removed, such as etching and/ or plating, then removing the resist and ARC.

4. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Thackeray et al in view of any of Ogita et al, Kawashima et al, and Kawabe et al, in further view of Kang et al (6,468,718).

Thackeray et al, Ogita et al, Kawashima et al, and Kawabe et al have been discussed above. Thackeray et al, as discussed above, discloses that the material further comprises an initiator such as an onion salt or other known initiator and photoacid generators.

Kang et al disclose an anti-reflective layer to be coated onto a substrate prior to the coating of a layer of photoresist, wherein the ARC layer comprises a polymer having an anthracene substituent, may have a triazine initiator (see examples 1-5), and comprises any known crosslinker (column 10, lines 4-21). Furthermore, the reference teaches that dry etching

may be performed to etch the anti-reflective layer and other underlying layers (which would include the substrate layer).

Given the teachings of Kang et al, that antireflective compositions similar to that of Thackeray et al may comprise triazine compounds as initiators, it would have been obvious to one of ordinary skill in the art to prepare the material of Thackeray et al choosing as the initiator, a triazine compound as taught to be useful by Kang et al.

Response to Arguments

5. Applicant's arguments with respect to claims 4-8 and 11-13 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amanda C Walke
Primary Examiner
Art Unit 1795

/Amanda C Walke/
Primary Examiner, Art Unit 1795